CLAIMS:

1. A C8-substituted purine nucleotide analog, wherein the analog is substituted at the C8 position with a substituent other than H.

2. The analog of claim 1, wherein the purine is adenine.

3. The analog of claim 1, wherein the substituent is an ether, thioether or an amine.

4. The analog of claim 2, wherein the substituent is an ether, thioether or an amine.

5. The analog of claim 1, wherein the substituent is an ether, and wherein the ether substituent has the structure:

-O-X.

6. The analog of claim 5, wherein X is an alkyl group.

7. The analog of claim 6, wherein X is selected from the group consisting of:

(a) C_7H_{13} (cycloheptyl)

(b) $(CH_3)_3CCH_2$

(c) $CH_3(CH_2)_n$, wherein $1 \leq n \leq 5$

8. The analog of claim 1, wherein the substituent is a thioether, and wherein the thioether substituent has the structure:

-S-X.

9. The analog of claim 8, wherein X is an alkyl group.

10. The analog of claim 9, wherein X is selected from the group consisting of:

(a) C_7H_{13} (cycloheptyl)

(b) $(CH_3)_3CCH_2$

(c) $CH_3(CH_2)_n$, wherein $1 \leq n \leq 5$

11. The analog of claim 1, wherein the substituent is an amine, and wherein the amine substituent has the structure:

-NH-X.

12. The analog of claim 11, wherein X is an alkyl group.

13. The analog of claim 12, wherein X is selected from the group consisting of:

(a) C_7H_{13} (cycloheptyl)

(b) $(CH_3)_3CCH_2$

(c) $CH_3(CH_2)_n$, wherein $1 \leq n \leq 5$

14. The analog of claim 1 selected from the group consisting of:

compound 6a, compound 6b, compound 6c, compound 6d, compound 6e, compound 7a, compound 7b, compound 7c, compound 7d, compound 7e, compound 8a, compound 8b, compound 8c, compound 8d, and compound 8e.

15. A method for modulating the activity of an NTPDase enzyme comprising exposing the enzyme to the analog according to claim 1.

16. The method according to claim 15 wherein the activity of the NTPDase enzyme is inhibited.

17. A method for modulating the level of purine nucleotide(s) and/or nucleoside(s) and/or metabolite(s) or derivative(s) thereof in a biological system, comprising the step of introducing into said system the analog according to claim 1.

18. A method for modulating the activity of a biological process in a biological system, wherein said process is affected by the level of purine nucleotide(s) and/or nucleoside(s) and/or metabolite(s) or derivative(s) thereof in said system, comprising the step of introducing into said system the analog according to claim 1.

19. The method of claim 18, wherein the biological process is aggregation and thrombogenecity.

Add B1

Add C4